TECHNOLOGY NEEDS/OPPORTUNITIES STATEMENT

IODINE-129 CHARACTERISTICS

Identification No.: RL-MW038
Date: October 2001

Program: Waste Management
OPS Office/Site: Richland Operations Office/Hanford Site
PBS No.: RL-CP02
Waste Stream: NA
TSD Title: 1775 – 200 Area Effluent Treatment Facility
Operable Unit (if applicable): N/A
Waste Management Unit (if applicable): N/A
Facility: Effluent Treatment Facility

Priority Rating:

This entry addresses the "Accelerated Cleanup: Paths to Closure (ACPC)" Priority:

_X_ 1. Critical to the success of the ACPC
____ 2. Provides substantial benefit to ACPC projects (e.g., moderate to high lifecycle cost savings or risk reduction, increased likelihood of compliance, increased assurance to avoid schedule delays)
____ 3. Provides opportunities for significant, but lower cost savings or risk reduction, and may reduce uncertainty in ACPC project success.

Need Title: Iodine-129 Characteristics

Need/Opportunity Category: *Technology Need* --There is no existing or currently identified technology capable of solving the site's problem (i.e., technology gap exists, no baseline approach has been identified).

Need Description: It is anticipated that in the future, the ETF may receive wastewaters that contains high levels of I-129, which is highly soluble in high pH solutions. When the wastewater is acidified, this I-129 may be emitted out the stack. The characteristics of I-129 at different operating conditions may be needed to determine treatability at the ETF.

Schedule Requirements:

Earliest Date Required: 2003

Latest Date Required: June 2005

Must be implemented by June 2005, consistent with the arrival of the Waste Treatment Plant effluent.

Problem Description: The projected level of I-129 in the effluent to be received from WTP is outside the ETF treatability envelope.

Potential Life-Cycle Cost Savings of Need (in $000s) and Cost Savings Explanation: TBD

Benefit to the Project Baseline of Filling Need: Treat WTP effluent with elevated level of I-129.

Relevant PBS Milestone: N/A

Functional Performance Requirements: A method for treatment of elevated level of I-129 in WTP effluent.

Work Breakdown Structure (WBS) No.:	***TIP No.:***
1.2.2	Candidate

Justification For Need:

Technical: I-129 chemistry unknown

Regulatory: Wastewater may contain elevated levels I-129 that may exceed NOC air emission levels.

Environmental Safety & Health: N/A

Cultural/Stakeholder Concerns: N/A

Other: None identified.

Current Baseline Technology: None

End-User: Waste Management.

Contractor Facility/Project Manager: TBD

Site Technical Point-of-Contact: Dale Black, Fluor Hanford, Inc. (FH), (509) 376-8458, Fax (509) 372-1441, Dale_G_Black@rl.gov.

DOE End-User/Representative Point-of-Contact: Kevin Leary, DOE-RL, (509) 373-7285, Fax (509) 372-1926, Kevin_D_Leary@rl.gov.

Waste volume, liters	Current: N/A; Forecasted (5 yrs): 1.73 billion liters
Waste form	Liquid, ETF Feed
Waste stream I.D.	NA
Contaminants and co-contaminants	TBD
Function of technology	Determine I-129 treatability at ETF
Source category	Various Hanford Site programs